

REMARKS

Applicants' representative thanks the Examiner for the courtesies extended with regard to the information conveyed *via* phone on October 31, 2007, by Francis Dunn, wherein a proposed amendment to independent claim 1 was conveyed to the Examiner. The proposed amendment to independent claim 1 related, in part, to a classification component that tracks the access behavior of the at least one user with regard to the relational database and automatically regenerates the file based on the most recent schema representation of the at least a portion of the relational database for the at least one user based in part on the access behavior of the at least one user.

Claims 1-46 are currently pending in the subject application, and claims 1-33 are presently under consideration. Claims 1 and 18 have been amended as shown on pages 2-8 of the Reply. Claims 34-46 are withdrawn from consideration. No new matter has been added and no additional search will be required as a result of the amendments made herein.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-33 Under 35 U.S.C. § 102(e)

Claims 1-33 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Koch, *et al.* (US 2003/0055828). It is requested that this rejection be withdrawn for at least the following reason. Koch, *et al.* does not disclose each and every element of the subject claims.

For a prior art reference to anticipate, 35 U.S.C. § 102 requires that “*each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

The claimed subject matter relates to representing relational schemas in an alternative declarative format to facilitate reconstruction of a relational database, for example, when remote or disconnected from the relational database. In accordance with

an aspect, a declarative description component can represent a relational schema by generating data in an implementation-neutral, declarative format, for example, an Relational Schema Definition (RSD) language format that can be based on an eXtensible Markup Language (XML) format utilizing XML syntax. The declarative description component can extract metadata associated with the relational database, and format the metadata into a file that can represent the precise data and structure of the database. In one aspect, the data in the file can represent at least a portion the relational database, where the selection of the data stored in the file can be based in part on access rights to the relational database that are associated with a user who will use such file. The file can then be utilized to reconstruct the corresponding database, or portion thereof, when remote and disconnected from the relational database. In another aspect, a user can modify the data in the file while disconnected from the database. The declarative description component can facilitate updates to the database by re-merging the modified file with the database to reflect the changes made to the file while disconnected from the database.

Further, the claimed subject matter can employ a classification component that can track the access behavior of the users with regard to the relational database and can automatically learn when a file is to be generated and what portion of the relational database is to be utilized to facilitate generating the file based in part on the access behavior of the user. For instance, the classification component can automatically regenerate a file based on the most recent schema representation of the relational database, or a portion thereof, for a user based in part on the access behavior of that user. In another aspect, the classification component can employ a probabilistic-based and/or statistical-based analysis to infer actions and/or automated functions to be automatically performed.

In particular, independent claim 1, as amended, recites: *a declarative description component that facilitates generation of data, in an implementation-neutral, declarative format based upon an eXtensible Markup Language (XML) syntax, that represents at least a portion of the relational database, generates a file, and stores the data in the file, the file facilitates reconstruction of the relational database when disconnected from the relational database, wherein the data in the file is a subset of*

data of the relational database, the selection of the data stored in the file is based in part on access rights, associated with at least one user, to the relational database, the declarative description component facilitates updates to the relational database such that changes to the data in the file while disconnected from the relational database are utilized to update the relational database when the file is connected with the relational database. Koch, *et al.* does not disclose this distinctive feature of the claimed subject matter.

Rather, Koch, *et al.* discloses a method to synchronize off-line and on-line transcript projects. (See p. 1, ¶ [0010]). Koch, *et al.* also discloses that a database that is accessible over a network and contains electronic transcript files that contain user-created annotations. (See *id.*) Koch, *et al.* also discloses that an off-line database is created in a user device, where the off-line database contains a copy of one or more electronic transcript files. (See *id.*; and p. 4, ¶ [0048]) Koch, *et al.* further discloses that the user device contains the same transcript management software as the online network. (See p. 1, ¶ [0005]; p. 4, ¶ [0050]). On the user device, while disconnected from the network, the user can manipulate the annotations associated with an electronic transcript file. (See p. 1, ¶ [0010]). Koch, *et al.* discloses that when the user device is connected to the network, it is determined whether the off-line version of the annotations contains change from the annotations in the database, and if so, the change is written to the database. (See *id.*).

However, unlike the claimed subject matter, Koch, *et al.* is silent regarding a file that contains data that represents all or a portion of a relational database in a different format, where the data stored in the file is selected based in part on access rights associated with the user of the file. Instead, Koch, *et al.* discloses that the user selects the transcript files for offline availability and such transcript files are stored in the offline project on the local computer of the user. (See p. 3, ¶ [0040]).

Further, Koch, *et al.* fails to disclose generating data in an implementation-neutral, declarative format that represents the relational database, representing a relational database and storing the data in a file to facilitate reconstruction of the relational database while disconnected from the relational database. Rather, Koch, *et al.* simply allows a user to copy a transcript file from the online database to a user device, where the copy of the transcript file is in the *same* format as the original transcript file in the online database; and using the *same* transcript management software as the online network, the

user can manipulate annotations of the transcript file on the user device. (See p. 1, ¶¶ [0005], [0010]; p. 4, ¶¶ [0048], [0050]).

In contrast, the claimed subject matter can generate data that represents a relational database, including its physical information (e.g., data values in tables in the relational database) and logical information (e.g., information regarding the structure of tables and columns in the relational database), in an implementation-neutral, declarative format (e.g., a different format, such as RSD language format). The data, in such different format, can be stored in a file, where the file can be used to reconstruct the relational database when disconnected from the relational database. Further, in generating the file, the *declarative description component can select data* to be stored in the file *based in part on the access rights of the user to the relational database*, where the selected data can be *a subset of data of the relational database*. The user can modify the file while disconnected from the relational database. When the file is connected to the relational database, the declarative description component can facilitate re-merging the file, as modified, with the relational database such that changes to the data in the file can be utilized to update the relational database based on the changed data.

Further, independent claim 1 additionally recites: *a classification component that automatically learns when the file is to be generated and what portion of the relational database is to be utilized to generate the file, and tracks the access behavior of the at least one user with regard to the relational database and automatically regenerates the file based on the most recent schema representation of the at least a portion of the relational database for the at least one user based in part on the access behavior of the at least one user*. Koch, *et al.* fails to disclose this distinctive aspect of the claimed subject matter.

Rather, Koch, *et al.* discloses that segments of video associated with particular sections of an electronic transcript can be played, wherein synchronized video support is provided using an XML data format. (See p. 8, ¶ [0087]). Video tags associated with the transcript represent a pointer to the video file and a mapping to the position in a transcript. (See *id.*) The video for the transcript can be played and can jump to the correct offset in the video based on where a user has highlighted the transcript. (See *id.*)

However, Koch, *et al.* is silent regarding a classification component that tracks

the access behavior of a user and automatically learns when to generate a file or re-generate an updated version of a file representing a relational database, or a portion thereof, based on the access behavior of the user with regard to the database.

In contrast, the claimed subject matter employs *a classification component that can track a user(s) access behavior* with regard to the relational database, and can learn and anticipate when to generate or re-generate a file representing at least a portion of the database for a user(s) based in part on the access behavior of the user. For example, the classification component can track the access behavior of users with regard to the relational database and *based in part on the access behavior* of a respective user and/or other trigger criteria, *the classification component can automatically regenerate the file*, so that the file represents the most recent schema representation of at least a portion of the relational database.

As further example, if the classification component tracks a particular user and learns that the user regularly accesses the database for financial information on Friday at 9:00 p.m., the classifier can anticipate that the user will access the database for financial information on the next Friday at 9:00 p.m. and can automatically regenerate the file containing a representation of such portion (*e.g.*, financial information) of the database, and the user can use the file to reconstruct that portion of the database while remote from the database.

Furthermore, claim 18 additionally recites: *the classification component employs at least one of a probabilistic-based analysis or statistical-based analysis, or a combination thereof, to infer that an automated function be automatically performed.* Koch, *et al.* fails to disclose such distinctive functionality.

For reasons similar to that stated above, Koch, *et al.* is silent regarding the classification component of the claimed subject matter.

In contrast, the claimed subject matter can utilize a classification component that employs *a probabilistic-based and/or statistical-based analysis to infer* that an automated function be performed. For example, if a relational database is distributed over several locations, and each location has an associated file that represents the distributed database portion at that location, the classification component can make inferences that facilitate determining which location will be selected for regeneration, in

what order the locations will be processed, and when the file will be regenerated. As another example, the classification component can receive information regarding the access behavior of particular users, and, based on this information, can infer future use of the database or RSD files of such particular users to determine when to update and/or regenerate the RSD file.

In addition, independent claim 24 recites: *[a] machine-implemented system that represents a relational schema of a relational database in a different format, comprising a declarative description component that receives the relational schema in the form of at least metadata and generates a data file, in a non-procedural declarative language format based upon an eXtensible Markup Language (XML) syntax, representative of a logical view thereof, the data file represents the relational schema and facilitates regeneration of the relational database when disconnected from the relational database.* Koch, *et al.* fails to disclose such distinctive functionality of the claimed subject matter.

Instead, Koch, *et al.* simply allows a user to copy a transcript file from the online database to a user device, where the copy of the transcript file is in the *same* format as the original transcript file in the online database; and using the *same* transcript management software as the online network, the user can manipulate annotations of the transcript file on the user device. (See p. 1, ¶¶ [0005], [0010]; p. 4, ¶¶ [0048], [0050]).

The claimed subject matter can represent a relational schema of a relational database in a different format. A declarative description component can generate a data file in a non-procedural declarative language format based on the relational schema in metadata form that can represent a logical view of the relational database, or a portion thereof. For instance, the declarative description component can generate data based on an RSD language format that represents the relational database, and such data can be stored in a file. The data file can be utilized to regenerate the relational database when disconnected from the relational database.

In view of at least the foregoing, it is readily apparent that Koch, *et al.* does not disclose each and every element of the claimed subject matter as recited in independent claims 1 and 24 (and associated dependent claims 2-23 and 25-33). Accordingly, it is believed that the subject claims are in condition for allowance, and the rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063[MSFTP449US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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